

REMARKS

Claims 1-26, 28-42, 52-58, and 109-129 are pending in the present application.

Claims 59-108 were cancelled in a preliminary amendment filed December 29, 2000.

Claims 27, 43-51 have been cancelled without prejudice to or disclaimer of the subject matter contained therein.

Claims 109-129 have been added by amendment.

The claims 23-28, 35, 38, 42, 43, 46 and 50-53 stand rejected in the manner indicated below. The claims 36, 37, 39-41, 44, 45, 47-49 and 53-58 stand objected to as indicated below.

Claims 53-56 and 58 stand objected to under 37 CFR 1.75(c) as being in improper form.

Claims 23 and 26 stand rejected under 35 U.S.C. 102(b) as anticipated by EP 040139 ("EP '139").

Claims 23-28, 35, 42, 43, and 50-52 stand rejected under 35 U.S.C. 103(a) as being unpatentable over EP '139.

Claims 23 and 26 stand rejected under 35 U.S.C. 102(b) as anticipated by US 4,999,418 to Krutak et al.

Claims 23-25, 27, 35, 38, 42, 43, 46 and 50-52 stand rejected under 35 U.S.C. 102(b) as anticipated by US 5,243,021 to Langer et al.

Claims 36, 37, 39-41, 44, 45, 47-49 and 57 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim.

Claims 1-22 and 29-34 are allowable over the prior art.

The foregoing rejections and other items in the Office Action are addressed in the following paragraphs. Consideration of the pending claims is respectfully requested in view of the following comments.

Claims 53-56 and 58 - 37 CFR 1.75(c)

The rejection of claims 53-56 and 58 under 37 CFR 1.75(c) as being in improper form is respectfully traversed.

Claims 53 and 55 have been amended to remove their multiple dependency. As a result, claim 53 solely depends from claim 26, and claim 55 solely depends from claim 26.

Thus, Applicants respectfully request the Examiner to withdraw the rejection of claims 53-56 and 58 under 37 CFR 1.75(c), and request substantive examination of claims 53-56 and 58.

Claims 23 and 26 - 35 U.S.C. 102(b)

The rejection of claims 23 and 26 under 35 U.S.C. 102(b) as anticipated by EP '139 is respectfully traversed.

Contrary to the Examiner's position, claims 23 and 26 are not anticipated by EP '139. As stated in the specification, EP '139 discloses polyesters that are produced from one or more diols, acids such as cyclic dicarboxylic acids, and anthraquinone derivatives. The anthraquinone derivative is used in a "coloring amount" from 1.0 to 5,000 ppm.

As recited in claim 23, the light absorbing composition comprises the residue of at least one light absorbing diacidic monomer and a divalent organic radical wherein said at least one light absorbing diacidic monomer comprises at least about 50% by weight of the total composition. The amount of anthraquinone in

the polyesters of EP '139 is less than 1% of the total weight of the composition.

Thus, Applicants respectfully submit that EP '139 patent does not anticipate claims 23 and 26 of the present application and respectfully request that the Examiner withdraw the rejection of these claims under 35 U.S.C. 102(b).

Claims 23-28, 35, 42, 43, and 50-52 - 35 U.S.C. 103(a)

The rejection of claims 23-28, 35, 42, 43, and 50-52 under 35 U.S.C. 103(a) as obvious over EP '139 is respectfully traversed.

With regard to claims 27, 43, 50 and 51, Applicants have cancelled these claims.

With regard to claims 23, 26, 35, 42 and 52, Applicants submit that the Examiner has not provided a clear and particular reason, suggestion, or motivation from the prior art for a person of ordinary skill to modify the polyester copolymers in EP '139 to achieve the light absorbing polymers of the present invention. Specifically, one of ordinary skill in the art would not have been motivated to modify the amount of anthraquinone in the polyester copolymers in EP '139 from the level of parts per million to the level of at least about 50% by weight of the total composition because such a modification would render the polyester copolymers in EP '139 unsatisfactory for their intended use of being "blown into bottles and/or molded into other useful articles." (EP '139, at p. 2, ln. 33-34).

With regard to claims 24, 25 and 28 to a thermoplastic blend, Applicants submit that the Examiner has not provided a reason, suggestion, or motivation from the prior art for a person of ordinary skill to modify EP '139 to achieve the blends of various thermoplastics with the light absorbing polymers of the present

invention. EP '139 only teaches the copolymerization of certain colorants at very low levels into polyesters during polyester manufacture. EP '139 does not teach or suggest blending a light absorbing polymer with a thermoplastic polymer.

Thus, Applicants respectfully submit that the Examiner has failed to establish a prima facie case of obviousness and respectfully request that the Examiner withdraw the rejection of claims 23-28, 35, 42, 43, and 50-52 under 35 U.S.C. 103(a) as obvious over EP '139.

Claims 23 and 26 - 35 U.S.C. 102(b)

The rejection of claims 23 and 26 under 35 U.S.C. 102(b) as anticipated by US 4,999,418 to Krutak et al. is respectfully traversed.

Contrary to the Examiner's position, claims 23 and 26 are not anticipated by Krutak. As stated in the specification, Krutak discloses fiber grade polyesters copolymerized with "up to, i.e. less than, 5,000 parts per million (ppm) of the residue of one or more anthraquinone compounds." (Krutak, at col. 1, ln. 52-55).

As recited in claim 23, the light absorbing composition comprises the residue of at least one light absorbing diacidic monomer and a divalent organic radical wherein said at least one light absorbing diacidic monomer comprises at least about 50% by weight of the total composition. The amount of anthraquinone in the polyesters of Krutak is less than 1% of the total weight of the composition.

Thus, Applicants respectfully submit that Krutak does not anticipate claims 23 and 26 of the present application and respectfully request that the Examiner withdraw the rejection of these claims under 35 U.S.C. 102(b).

Claims 23-25, 27, 35, 38, 42, 43, 46 and 50-52 - 35 U.S.C. 102(b)

The rejection of claims 23-25, 27, 35, 38, 42, 43, 46 and 50-52 under 35 U.S.C. 102(b) as anticipated US 5,243,021 to Langer et al. is respectfully traversed.

With regard to claims 27, 43, 50 and 51, Applicants have cancelled these claims.

Contrary to the Examiner's position, claims 23-25, 35, 38, 42, and 52 are not anticipated by Langer. Langer does not disclose light absorbing polymers comprising the residue of at least one diacidic monomer having a light absorption maximum between about 325 nm and about 1100 nm and wherein said at least one diacidic monomer comprises at least about 50% by weight of the total composition. Langer discloses light-absorbing water soluble copolymers comprising a UVA (320-400 nm) absorbing monomer unit, a UVB (290-320 nm) absorbing monomer unit, and a hydrophilic monomer. The UVA absorbing monomer is not present in an amount of at least 50% by weight of the total composition. For example, the polymer disclosed in Example 5 of Langer comprises 12.57 g of a UVA absorbing monomer (4,4'-bis(carbomethoxy)stilbene), 4.55 g of a UVB absorbing monomer, and 12.74 g of a hydrophilic monomer (polyethylene glycol). As a result, the UVA absorbing monomer is present in an amount of less than 50% by weight of the total composition.

Thus, Applicants respectfully submit that Langer does not anticipate claims 23-25, 35, 38, 42, 46 and 51-52 of the present application and respectfully request that the Examiner withdraw the rejection of these claims under 35 U.S.C. 102(b).

New Claims 109-129

The new Claims 109-129 correspond to the subject matter disclosed in original claims 23-26, 28, 35-42 and 51-58 with the exception that A₁ consists essentially of at least one residue of a diacidic monomer having a light absorption maximum between about 300 nm and about 1200 nm.

Specifically, claim 109 recites a light absorbing composition having the formula $-[A_1-B]_n-$ wherein A₁ consists essentially of at least one residue of a diacidic monomer having a light absorption maximum between about 300 nm and about 1200 nm and wherein B is a divalent organic radical.

Applicants submit that claims 109-129 are not anticipated or rendered obvious by the references cited by the Examiner.

With regard to EP '139 and Krutak, these references disclose polyesters comprising an anthraquinone derivative, one or more diols, and acids such as cyclic dicarboxylic acids that do not have a light absorption maximum between about 300 nm and 1200 nm. For example, EP '139 and Krutak disclose polyesters comprising terephthalic acid residues. (EP '139, at p. 8, ln. 26; Krutak, at col. 14, ln. 38). Terephthalic acid has a λ_{\max} in dioxane of 242 nm and 286 nm¹.

With regard to Langer, this reference discloses light-absorbing water soluble copolymers comprising a UVA (320-400 nm) absorbing monomer unit, a UVB (290-320 nm) absorbing monomer unit, a hydrophilic monomer, and optionally one hydrophobic monomer unit.

Thus, claims 109-129 are not anticipated or rendered obvious by EP '139, Krutak, or Langer.

¹ Handbook of Chemistry & Physics, 55th Ed., CRC Press (1974-75).

Fee

The fee of \$180.00 for the ten additional claims added to this application is included with this Office Action Response.

CONCLUSION

As explained in detail above, Applicants believe that the presently claimed light absorbing polymer is patentable subject matter.

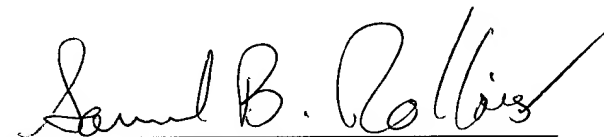
It is believed that all of the present rejections have been overcome and therefore a favorable Office Action is respectfully solicited.

The Examiner is invited to contact the undersigned at (336) 607-7432 to discuss any matter relating to the application.

Respectfully submitted,

Date:

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